REMARKS

Claims 1 and 4-6, 8, 9, 11, 12 and 20-26 are currently pending in this application. Claims 1 , 20 and 25 have been amended. Applicants have carefully reviewed the final Office Action and respectfully request reconsideration of the claims in view of the remarks presented below.

Claim Rejections Under 35 U.S.C. §102

Claims 1, 4-5, 9, 11, 20, 22-23 and 25 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Publication 2003/0088281 (Ostroff).

Regarding Ostroff and Applicants' claimed features, the Examiner considers the Ostroff H-bridge terminals connected across resistor R_{PAT} to correspond to Applicants' "output adapted for connection across a load;" Ostroff's capacitor C1 to correspond to Applicants' "voltage storage device;" Ostroff's capacitors C2, C3 and/or C4 to correspond to Applicants' "capacitor switcheably coupled across the voltage storage device and output;" and Ostroff's switches H1, H2, L1 and L2 to correspond to Applicants' "H-bridge . . . including a first switching device operative to receive [a] pulse waveform."

The Examiner appears to associate some of the above – already applied – components of Ostroff with other claimed elements. For example, paragraph 3 of the final Office Action states that Ostroff provides "a pulse width modulation, performed by the switches on the legs of the H-bridge, in response from a switching signal from the capacitors [sic] SW2-SW4, which correspond to the capacitors of the charging circuit." Thus, the Examiner appears to lump switches H1, H2, L1 and L2 (which were already identified as corresponding to Applicants' "H-bridge"), switches SW2-SW4 and capacitors C2, C3 and C4 (which were already identified as corresponding to Applicants' "capacitor switcheably coupled across the voltage storage device and output,") together to obtain Applicants' "pulse-width modulation circuitry operative to provide a pulse waveform."

Also, regarding Applicants' "charging circuit," the Examiner considers the drive circuit 15 of Ostoff to correspond to it, despite the fact that the Ostroff drive circuit includes capacitor C1 (which already corresponds to Applicants' "voltage storage device"), capacitors C2, C3 and/or C4 (which already correspond to Applicants' "capacitor switcheably coupled across the voltage storage device and output") and switches SW2-SW4 (which already correspond to part of Applicants' "pulse-width modulation circuitry operative to provide a pulse waveform").

Applicants' claims recite separate and distinct structural elements, namely an output, a charging circuit, a voltage storage device, a capacitor, pulse width modulation circuitry and an H-bridge. For a prior art reference to anticipate in terms of 35 U.S.C. §102, every element of the claimed invention must be identically shown in a single reference. Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 677 (Fed. Cir. 1988). These elements must be arranged as in the claim under review, Lindemann Maschinenfabrik v. American Hoist & Derrick Co., 730 F.2d 1452, 1458 (Fed. Cir. 1984). As noted above, the Examiner has on several occasions identified the same single Ostroff structure as corresponding to, or being part, of more than one of Applicants' claimed elements. For example, Ostroff's switches H1, H2, L1 and L2 are considered to correspond to both the claimed H-bridge and part of the claimed pulse width modulation circuitry. In view of the various misapplications of Ostroff cited above, Applicants submit that the rejections of claims 1, 4-5, 9, 11, 20, 22-23 and 25 under 35 U.S.C. §102 are legally improper and should be withdrawn.

That said, Applicants further submit that the §102 rejections of independent claims 1 and 20 in view of Ostroff are also substantively improper for the following reasons:

The Examiner appears to be under the impression that the signal that results from the activity of the Ostroff switches SW2-SW4 and that is provided to node 17 (figure 1) of the Ostroff H-bridge controls the opening and closing of the H-bridge switches H1, H2, L1, L2. Applicants are assuming this because it is the only logical way in which the Examiner could have possibly accounted for the claimed feature of a

"switching device operative to receive [a] pulse waveform, and alternately couple and decouple [a] voltage storage device across [a] capacitor and [an] output in accordance with the pulse waveform." (Emphasis added.)

This interpretation of Ostroff is incorrect. As is well known in the art, and alluded to in Ostroff, pairs of H-bride switches are switched between open and closed states in order to control the polarity of the output waveform. Thus, in Ostroff, H1 and L2 are closed while L1 and H2 are open in order to provide the positive phase of the waveform shown in figure 2. Subsequently, polarity may be switched by opening switches H1 and L2 and closing switches L1 and H2 to deliver the negative phase of the waveform shown in figure 2. The activity of switches SW2-SW4 creates the sawtooth waveform shown in the first part of figure 2. This signal is provided at node 17 of the H-bridge. The voltage at node 17 does not control the opening and closing of any switches. It merely creates a current that passes through a closed upper H-bridge switch (H1 or H2), through the output and to return through a closed lower H-bridge switch (L1 or L2). Instead, as is well known in the art – but not described in Ostroff – the opening and closing of H-bridge switches, which are typically implemented by insulated-gate bipolar transistors or field effect transistors, are controlled by a signal provided to one of three transistor inputs. See e.g., U.S. Patent No. 6,208,896, column 12, lines 12-15 and 37-38. Accordingly, to construe that the voltage at node 17 controls the H-bridge switches is incorrect.

Such construction is even more clearly incorrect when one considers that if the Ostroff H-bridge switches were somehow controlled by the voltage at node 17, then the Ostroff circuit would be inoperative for its intended purpose. Specifically, node 17 of Ostroff is connected to both H1 and H2 and not to L1 and L2. Thus, control of the H-bridge switches by a voltage at node 17 would have no effect on switches L1 and L2 and would have a simultaneous effect on switches H1 and H2, *i.e.*, both would either be open or closed. In either case, no current would flow through the H-bridge to the output.

To clarify the H-bridge switching device feature, claim 1 has been amended to recite that the switching device is configured to receive the pulse waveform, and

alternately switch between an open state and a closed state in response to the pulse waveform to thereby couple and decouple the voltage storage device across the capacitor and the output. Likewise, claim 20 has been amended to recite a control device configured to receive a control signal and alternately switch between a closed state and an open state in response to the control signal, wherein: when the control device is in a closed state, the first capacitor is coupled across the second capacitor and the output; and when the control device is in an open state, the first capacitor is decouple across the second capacitor and the output, and the second capacitor is coupled across the output. As noted above, the waveform at node 17 of Ostroff does not control the open/closed state of H-bridge switches. Furthermore, Ostroff is silent with respect to the control of its H-bridge switches. Accordingly, Applicants submit that Ostroff fails to disclose the switch and control device feature of claims 1 and 20.

Applicants further submit that Ostroff fails to disclose the following claimed features for the following reasons:

1) A voltage storage device (claim 1) or first capacitor (claim 20) coupled between the charging circuit and the output.

Because Ostroff's "voltage storage device" (capacitor C1) is part of Ostroff's "charging circuit" (drive circuit), it cannot be coupled between the charging circuit, *i.e.*, itself, and the output. Accordingly, Ostroff does not teach a voltage storage device coupled between a charging circuit and an output, as recited in claim 1, or a first capacitor coupled between a charging circuit and an output, as recited in claim 20.

2) A switching device configured to couple and decouple a voltage storage device across a capacitor and an output (claim 1). A control device configured to couple and decouple a first capacitor across a second capacitor and an output (claim 20).

The coupling and decoupling of Ostroff's "voltage storage device" (C1) across Ostroff's "capacitor" (C2, C3 and/or C4) is controlled by switch SW2 – not Ostroff's "first switching device" (H1, H2, L1 or L2). Thus, Ostroff's "first switching device" (H1, H2, L1

or L2) does not function to couple and decouple Ostroff's "voltage storage device" (C1) across Ostroff's "capacitor" (C2, C3 and/or C4) and "output" (R_{PAT}). Accordingly, Ostroff does not teach a first switching device configured to couple and decouple a voltage storage device across a capacitor and an output, as recited in claim 1. Nor does it teach a circuit arrangement including a control device, which when closed, couples a first capacitor across a second capacitor and an output, and when opened decouples the first capacitor across the second capacitor and the output, while coupling the second capacitor across the output, as recited in claim 20.

3) A capacitor arranged to receive current from a voltage storage device when a switching device is closed and the voltage storage device is coupled across an output and to supply current to the output when the switching device is open and the voltage storage device is decoupled across the output (claim 1).

When Ostroff's "voltage storage device" (C1) is decoupled across Ostroff's "output" (R_{PAT}) – by the opening of switches in the H-bride – Ostroff's "capacitor" (C2, C3 and/or C4) would ipso facto, also be decoupled across the output and thus be unable to supply current to the output. Thus, Ostroff's "capacitor" (C2, C3 and/or C4) is not arranged to supply current to the "output" (R_{PAT}) when the "voltage storage device" (C1) is decoupled across the output. Accordingly, Ostroff does not teach a capacitor arranged to receive current from a voltage storage device when a switching device is closed and the voltage storage device is coupled across an output, and to supply current to the output when the switching device is open and the voltage storage device is decoupled across the output, as recited in claim 1.

In view of the foregoing, Applicants submits that Ostroff fails to disclose the combinations of elements and features recited in independent claims 1 and 20. Accordingly, Applicants request reconsideration of the §102 rejections of claims 1 and 20. Applicants further submit that, in view of their incorporation of subject matter recited in their respective independent base claim, each of dependent claims 4-5, 9, 11, 22-23 and 25 is also novel over Ostroff.

Claim Rejections Under 35 U.S.C. §103

Claims 6 and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ostroff in view of U.S. Patent No. 5,725,560 (Brink). Claims 8, 12, 24 and 26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ostroff.

In view of the foregoing analysis of independent claims 1 and 20 in view of Ostroff, Applicants believe that the rejections under §103 are rendered moot as dependent claims 6 and 21 depend from allowable independent claims.

CONCLUSION

Applicants have made an earnest and bona fide effort to clarify the issues before the Examiner and to place this case in condition for allowance. Therefore, allowance of Applicants' claims 1 and 4-6, 8, 9, 11, 12 and 20-26 is believed to be in order.

Respectfully submitted,

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